

ABSTRAK

PERENCANAAN SISTEM JARINGAN DISTRIBUSI AIR BERSIH DI PERUMAHAN SURYA ALAM 6 KOTA PALEMBANG BERDASARKAN DEBIT DAN TEKANAN

Nur Amalia Hasanah, Nurul Soleha

Program Studi D-III, Jurusan Teknik Sipil, Politeknik Sriwijaya

Perencanaan ini bertujuan merencanakan sistem jaringan distribusi air bersih di Perumahan Surya Alam 6 Kecamatan Gandus Kota Palembang yang mengalami peningkatan kebutuhan air akibat pertumbuhan penduduk. Data primer diperoleh melalui survei lapangan, sedangkan data sekunder bersumber dari PERUMDA Tirta Musi Palembang. Analisis dilakukan dengan menghitung proyeksi pertumbuhan penduduk, kebutuhan air domestik dan non-domestik, debit pelayanan, kehilangan tinggi tekan (headloss), serta tekanan pada jaringan pipa distribusi. Selanjutnya dilakukan perhitungan kuantitas pekerjaan, Analisis Harga Satuan Pekerjaan (AHSP), dan penyusunan Rencana Anggaran Biaya (RAB) yang berjumlah sebesar Rp. 722.793.000,00.

Hasil perencanaan menunjukkan bahwa jaringan distribusi menggunakan pipa HDPE berdiameter Ø160 mm, Ø110 mm, dan Ø63 mm mampu memenuhi kebutuhan air seluruh pelanggan dengan debit dan tekanan sisa dalam batas layanan yang diterima. Hasil perencanaan ini dapat menjadi acuan teknis bagi PERUMDA Tirta Musi Palembang dan pihak pengembang dalam pengembangan sistem penyediaan air bersih di kawasan tersebut.

Kata kunci: air bersih, jaringan distribusi, debit, tekanan, headloss, pipa HDPE.

ABSTRACT

PLANNING OF CLEAN WATER DISTRIBUTION NETWORK SYSTEM IN SURYA ALAM 6 HOUSING COMPLEX, PALEMBANG CITY BASED ON FLOW RATE AND

Nur Amalia Hasanah, Nurul Soleha

Diploma Degree, Civil Engineering Department, State Polytechnic of Sriwijaya

This planning project aims to design a clean water distribution network system in the Surya Alam 6 Housing Complex, Gandus District, Palembang City, which is experiencing increasing water demand due to population growth. Primary data was obtained through field surveys, while secondary data was sourced from the Regional Public Company (PERUMDA) Tirta Musi Palembang. The analysis was conducted by calculating projected population growth, domestic and non-domestic water demand, service flow, head loss, and pressure in the distribution pipe network. Next, work quantity calculations, a Unit Price Analysis (AHSP), and a Cost Budget Plan (RAB) were conducted, totaling Rp 722,793,000.00.

The planning results indicate that the distribution network, using HDPE pipes with diameters of Ø160 mm, Ø110 mm, and Ø63 mm, is capable of meeting the water needs of all customers, with flow rates and residual pressure within acceptable service limits. The results of this planning project can serve as a technical reference for PERUMDA Tirta Musi Palembang and developers in developing a clean water supply system in the area.

Keywords: *clean water, distribution network, flow rate, pressure, headloss, HDPE pipe.*